09C 94,

120

PAGE: 1

W-->

W-->

44

RAW SEQUENCE LISTING
PATENT APPLICATION US/09/541,094

DATE: 04/19/2000 TIME: 17:54:19

Input Set: I541094.RAW

This Raw Listing contains the General Information Section and up to first 5 pages.

ENTERED <110> APPLICANT: St.George-Hyslop, Peter H. 1 Fraser, Paul E. 2 University of Toronto 3 <120> TITLE OF INVENTION: A novel presenilin associated membrane 4 protein and uses thereof 5 <130> FILE REFERENCE: 1034/1F812-US1 6 <140> CURRENT APPLICATION NUMBER: US/09/541,094 7 <141> CURRENT FILING DATE: 2000-03-31 8 <160> NUMBER OF SEQ ID NOS: 19 9 <170> SOFTWARE: FastSEQ for Windows Version 3.0 10 <210> SEQ ID NO 1 11 <211> LENGTH: 12 <212> TYPE: 13 <213> ORGANISM: 14 <400> SEQUENCE: 1 15 This Sequence is intentionally skipped 16 <210> SEQ ID NO 2 17 <211> LENGTH: 18 <212> TYPE: 19 <213> ORGANISM: 20 <400> SEQUENCE: 2 21 This Sequence is intentionally skipped 22 <210> SEQ ID NO 3 23 <211> LENGTH: 422 24 <212> TYPE: DNA 25 <213> ORGANISM: mouse 26 <400> SEQUENCE: 3 27 60 cccagcggag aggcaagatg gctacgacta ggggcggctc tgggcctgac ccaggaagtc 28 ggggtcttct tcttctgtct ttttccgtgg tactggcagg attgtgtggg ggaaactcag 120 29 tggagaggaa aatctacatt cccttaaata aaacagctcc ttgtgtccgc ctgctcaacg 180 30 ccactcatca gattggctgc cagtcttcaa ttagtgggga tacaggggtt atccatgtag 240 31 tggagaaaga agaagactga agtgggtgtt gacgatggcc ccaaccccct tacatggtct 300 32 360 gctggaggga agtcttcaca gagatgtaat ggagaagctg aggacaacag tagatcctgg 33 420 tottgoogtg attagoagoo actoacttaa gtttototag tgtgagtgoo aatgatgggt 34 422 t.t. 35 <210> SEQ ID NO 4 36 <211> LENGTH: 473 37 38 <212> TYPE: DNA <213> ORGANISM: unknown 39 40 <220> FEATURE: <223> OTHER INFORMATION: EST from unknown organism 41 <400> SEQUENCE: 4 42 tggagaggaa aatctacatt cccttaaata aaacagctcc ttgtgtccgc ctgctcaacg 60 43

ccactcatca gattggctgc cagtcttcaa ttagtgggga tacaggggtt atccatgtag

DATE: 04/19/2000 RAW SEQUENCE LISTING PAGE: 2 PATENT APPLICATION US/09/541,094 TIME: 17:54:19

Input Set: 1541094.RAW

```
tggagaaaga agaagacctg aagtgggtgt tgaccgatgg ccccaacccc ccttacatgg
                                                                                           180
       45
                   ttctgctgga gggcaagctc ttcaccagag atgtaatgga gaagctgaag ggaacaacca
                                                                                            240
       46
                   gtagaatcgc tggtcttgcc gtgactctag ccaagcccaa ctcaacttca agcttctctc
                                                                                            300
        47
                   ctagtgtgca gtgcccaaat gatgggtttg gtaattactc caactcctac gggccagagt
                                                                                            360
        48
                   ttgctcactg gaagaaaaca ctgtggaatg aactcggcaa aggcttggct tatgaagacc
                                                                                            420
        49
                                                                                            473
                   ttagtttccc caatcttcct cctggagatg aggaccgaaa caaggtcatc aag
        50
             <210> SEQ ID NO 5
        51
             <211> LENGTH:
        52
W-->
             <212> TYPE:
W-->
        53
        54
             <211> LENGTH:
             <212> TYPE:
        55
        56
             <213> ORGANISM:
             <400> SEQUENCE: 5
        57
                   This Sequence is intentionally skipped
        58
             <210> SEQ ID NO 6
        59
             <211> LENGTH: 463
        60
             <212> TYPE: DNA
        61
             <213> ORGANISM: unknown
        62
             <220> FEATURE:
        63
             <223> OTHER INFORMATION: EST from unknown organism
        64
             <400> SEQUENCE: 6
        65
                   gggctcgaaa catctctggc gtggtcctgg ctgaccactc tggctccttc cacaatcggt
                                                                                             60
        66
                   attaccagag catttatgac acggctgaga acattaatgt gacctatcct gagtggcaga
                                                                                            120
        67
                                                                                            180
                   gccatgaaga ggacctcaac tttgtgacag acactgccaa ggcactggcg aatgtggcca
        68
                   cagtgctggc gcgtgcactg tatgagcttg caggaggaac caacttcagc agctccatcc
                                                                                            240
        69
                                                                                            300
                   aggotgatoc coagacagtt acacgtotgo totatgggtt cotggttaga gotaacaact
        70
                   catggtttca gtcgatcctg aaacatgacc taaggtccta tttggatgac aggcctcttc
                                                                                            360
        71
                   aacactacat cgccgtctcc agccctacca acacgactta cgttgtgcag tacgccttgg
                                                                                            420
        72
                                                                                            463
                   caaacctgac tgggcaaggc gaccaacctc acccgagagc agt
        73
        74
             <210> SEQ ID NO 7
             <211> LENGTH: 481
        75
             <212> TYPE: DNA
        76
             <213> ORGANISM: unknown
        77
             <220> FEATURE:
        78
             <223> OTHER INFORMATION: EST from unknown organism
        79
        80
             <400> SEQUENCE: 7
                                                                                             60
                   gaggacetea aetttgtgae agacaetgee aaggeaetgg egaatgtgge caeagtgetg
        81
                   gcgcgtgcac tgtatgagct tgcaggagga accaacttca gcagctccat ccaggctgat
                                                                                            120
        82
                   ccccagacag ttacacgtct gctctatggg ttcctggtta gagctaacaa ctcatggttt
                                                                                            180
        83
                   cagtcgatct tgaaacatga cctaaggtcc tatttggatg acaggcctct tcaacactac
                                                                                            240
        84
                                                                                            300
                   ategeegtet ceageectae caacaegaet taegttgtge agtaegeett ggeaaacetg
        85
                   actggcaagg cgaccaacct cacccgagag cagtgccagg atccaagtaa agtcccaaat
                                                                                            360
        86
                   gagagcaagg atttatatga atactcgtgg gtacaaggcc cttggaattc caacaggaca
                                                                                            420
        87
                   gagaggetee cacagtgtgt gegeteacag tgegactgge aagggettgt eeetgeettt
                                                                                            480
        88
                                                                                            481
        89
                   g
             <210> SEQ ID NO 8
        90
             <211> LENGTH: 398
        91
        92
             <212> TYPE: DNA
             <213> ORGANISM: unknown
        93
```

<220> FEATURE:

94

DATE: 04/19/2000

TIME: 17:54:19

PAGE: 3 RAW SEQUENCE LISTING

PATENT APPLICATION US/09/541,094

Input Set: I541094.RAW

<223> OTHER INFORMATION: EST from unknown organism 95 <400> SEQUENCE: 8 96 agagctaaca actcatggtt tcagtcgatc ttgaaacatg acctaaggcc tatttggatg 60 97 acaggeetet teaacaetae ategeegtet ecageeetae caacaegaet taegttgtge 120 98 agtacgcctt ggaaacctga ctggcaaggc gaccaacctc acccgagagc agtgccagga 180 99 240 tccaagtaaa gtcccaaatg agagcaagga tttatatgaa tactcgtggg tacaaggccc 100 ttggaattcc aacaggacag agaggctccc acagtgtgtg cgctccacag tgcgactggc 300 101 cagggccttg tcccctgcct ttgaactgag tcagtggagc tccacagaat actctacgtg 360 102 398 ggcggagagc cgctggaaag acatccaagc tcggatat 103 <210> SEQ ID NO 9 104 <211> LENGTH: 172 105 <212> TYPE: DNA 106 <213> ORGANISM: unknown 107 <220> FEATURE: 108 <223> OTHER INFORMATION: EST from unknown organism 109 <400> SEQUENCE: 9 110 tgtgcgctcc acagtgcgac tggccagggc gttgtcacct gcctttgaac tgagtcagtg 60 111 gagetecaca gaataeteta egtgggegga gagegegtgg aaagaeatee eageteggat 120 112 attectaatt gecageaaag agettgagtt cateaegetg ategtggget te 172 113 <210> SEQ ID NO 10 114 <211> LENGTH: 425 115 <212> TYPE: DNA 116 <213> ORGANISM: unknown 117 <220> FEATURE: 118 <223> OTHER INFORMATION: EST from unknown organism 119 <400> SEQUENCE: 10 120 ttttttttt tttttgtat tgcataattt taatgaaact tgctatttat atacttacaa 60 121 aaaaaaaaa aaaggaaaaa accccaacaa aaatagataa ttatagttta ataataaaaa 120 122 gtacaactga gcactgtggg ctggaggtgg gatacccact taacagcgtg cccacactaa 180 123 catgccatct gcacacctgg agaaaggaca gtgggaaaga gacactggct cagccaggga 240 124 atccatttct tccctaaggg ttcagggtag ttgaatgcag atgcacaatc tttcacaccc 300 125 360 tcttcctggt gcagcaggtg gctgaatatg ggggaggggt gtcgggtgac agtggagtca 126 gagggcagta cagggcagga tggaaggaca gaaggtatcc cgagaaaggg cagaggaggg 420 127 425 128 tgggt <210> SEO ID NO 11 129 <211> LENGTH: 4560 130 <212> TYPE: DNA 131 <213> ORGANISM: C. Elegans 132 <400> SEQUENCE: 11 133 attaagaacg aatgagtcga tagaagcact gaaaaatgaa gaaatggcta gttatagtat 60 134 taattatcgc tggaatacga tgcgacggat tttcggatca agttttccga actctgttca 120 135 ttggagaagg aaatgcgtgc tatagaactt ttaataaaac gcacgaattc ggttgtcaag 180 136 gtaaaaattg aatgatttca aataattaca tataaaaaaa tattgcactg ttttttcatt 240 137 attttcattg aaaattagtg tcaaaatatg tataaatcaa tatttatctg aaaataactg 300 138 gaaatataga gaaagtgctc caaaatggcc aaaacgttgt caattgccga agacgatact 360 139 ctataataaa cggcaattgg caactttcgg gctgtttttc aacactgttc aatttgtcag 420 140 atgaaaataa ttttattttc agttaactca agtgattttc tatattgtgg cagtgaaaaa 480 141 540 aattcatagg ccattttgta gaattgccga aaataactcc acctctgaat tacatgcatt 142 600 ttcactagaa aatatcattt acatacattt taatttataa atatccagta tttatttatt 143 660 ttottaaact cattttcaag aaaaatattt tcagctaatc gagaaaacga gaatggccta 144

PAGE: 4

RAW SEQUENCE LISTING PATENT APPLICATION US/09/541,094

Input Set: I541094.RAW

DATE: 04/19/2000

TIME: 17:54:19

attgttcgaa tcgacaaaca ggaagacttc aaaaatctcg attcttgctg gaattcattt tatcccaaat attccgggaa atattgggca cttctcccag tcaatttgat tcgtcgtgat acaatttctc aattgaaatc atcgaaatgt ctttctggaa tagtattata taatagtgga gaatctattc atccaggaga tgaatcaaca gcagcttcac atgatgcaga atgtccaaat gctgcaagtg attattatct tcaagataaa aatgaagaat attgtgaaag aaagattaat tctcggggtg ctataacacg agatggatta atgaaaattg attggcggat acaaatggta tttattgata attcaactga tttggaaatc attgagaaat gttattcaat gttcaataaa ccaaaagaag atggttcatc tggatatcca tattgtggaa tgagctttcg tttggctaat atggcggctg gaaattcaga aatttgctat cggcgtggaa aaaacgatgc aaagctgttt cagatgaata ttgatagcgg gtaggttttt aaattttaag cagttaaaag aggtgaattt ttgcattatt aaatgcagaa tagaccgtaa atattgcatg atgagatgta tttcatgata atattettta agaaaataaa tttgaaaatt teataggaaa ataaacaaaa ttttgetaaa cttcatagtt tggcatttct tatctcgttt tttgttaatt taggggattt tttagtcaat aattgcaccg attccatgta tctcttttt tcgaatgata ttgtacctat atgccagacg agctataatt tootaatttt aaaaaataaa ttgtocaact caatgootoa atagttgaag ttttccagag atgctcctca actctgtggt gcaatgcaca gtgacaatat atttgcattt ccaactccaa ttccaacttc tccaacaaat gagacaataa tcacgagcaa atatatgatg gtaactgctc gaatggacag ttttggaatg attccagaga tttctgttgg cgaagtatcc gtactaactt caattatttc tgtactcgca gcagctcgat caatgggaac acagatcgaa aaatggcaga aagcatcgaa tacttcgaat cgtaatgttt tctttgcttt tttcaatggt gaatcgttgg attatattgg aagtggtgcg gctgcgtatc agatggagta agttggaaaa tttaatttaa aaaacgttct agaactagta actgatcaaa aaaatttccc tattaacata aaatggccca aaaattccta aaaatttcaa aatttcaaaa aaaaaaatag ttcgggcaaa aaacataatt ctagctgaaa cctcaaattt ggcaagcttt tcaggctcgt aacatatttt tggaagtcgt caatcaaaaa ataattcagt tttattcatt tatgataatt aattaaaatt ttccaacatt gtttgaaaat ttttataatg atatttggtc attttaccat aattggaatg gttttcaatt attttcccac tcttccttta gagaaaaaat atatttgtct tcagaaatgg aaagttccca caaatgattc gctctgatcg aacacacatt catccaattc gcccgaatga gttagattat atactggaag tacaacaaat tggagttgct aaaggacgaa aatattatgt acacgttgat ggagaacgat atcaacagaa taagacacag acagatcgag ttattgatcg aattgaacga ggtcttcgta gtcatgcttt tgatcttgaa aaaccatctg gaagtggaga taggtgggtg catcgaaaat agttttttt ttcaagaaca tacagaaaac gaaaagcttt taaagcattt totttaaaaa ttaaaaacaat ttgagcatat gtaaactaca attoogagtg tcgtttttcg aaaaaagtct aaaattaaaa aaaagcttat cgctcactat ttttcgaaaa taaggtattt ttcctttaat aaaggcaaac gaaaaatctt cagccatgga taggtgaatt atagaaataa ttttcaaaaa ttttcctttt tcagagttcc acccgcaagt tggcactcgt ttgccaaggc tgatgctcac gttcaatcag ttctccttgc accatatggt aaagaatatg aatatcaacg agttaattca attttggata aaaatgagtg gacagaagac gaacgagaga aagcaattca agagattgaa gctgtttcta ctgctattct ggcagcagcc gctgattatg ttggagttga aactgatgaa gttgttgcaa aagttgataa aaaattggta tgtattcttt ttttttttaa ttttaaaact ttcagcgaca atttagatgt tttattgttg aatttgaaat ttgcagtatt tttaaatact taaaacaaaa tccctgatga cgcagcgatt catcgctgta ttttctaatt gctgaaattg aattccatat atatggaata tttcatatct ttacatataa acgttttttt ttttcagata accactatat tcgattgtct catcacttcc aatttctggt tcgactgtga ttttatgcaa aaactcgatg gcggtcgcta ccacaagctg tttaattcct acggttttaa tcaaaaatca acatatattt caatggaatc ccatactgca ttccctaccg tactccattg gttaactatt ttcgctttgg gtagtgacaa agaaacattg aatgtgaaaa gtgaaaagag ctgctcacat cttggtcaat ttcaagcggt gagtttttat tttaaacgaa tatcaaataa ttaaaatagt tttccgccag tttcagatgt atacctacac gtggcaaccg aatccgtaca ccggaaattt cagttgtctg aaatctgcaa ttgttaaaaa agtaatggtt

DATE: 04/19/2000 RAW SEQUENCE LISTING 5 PAGE:

TIME: 17:54:19 PATENT APPLICATION US/09/541,094

Input Set: I541094.RAW

													-				
105	taga	יכממכ	ta t	agat	tata	a aa	cacc	cgaa	qaa	qaaa	tga	acac	gaga	ta t	tcaa	catgg	3720
195	atgo	.cggc	ag t	ttat	atta	t ta	aatc	tata	aat	- ttat	att	tgat	ggaa	ga t	gctt	cattt	3780
196 197	geat	atac	aa t	gatt	ctga	t ta	caat	tatt	tct	gctt	tat	tatc	aatc	tt t	gcag	ttggt	3840
197	tagt	tttt	tt t	tcaa	aaaa	a aa	atta	caaa	aat	aaat	cac	aagc	tttc	ga g	cttt	ctcgt	3900
199	atto	gaaa	at. or	aagg	agtt	t cq	catt	aaag	aaa	acta	gat	tttg	aatc	ag t	tttt	ctaat	3960
200	cttt	agag	aa a	ttat	acto	a ca	tttg	atgo	cca	gaaa	agt	ttgc	gact	tt t	gagc	caaaa	4020
200	gcac	aata	cc a	aatc	tcqa	c ac	gaaa	aatt	tat	atta	att	gaaa	atat	gt t	tgcg	ccttt	4080
201	aaat	.ggt.a	ct a	tatt	ttca	a at	tctc	attg	ctg	gcga	ttt	aaaa	aaat	gc a	tttt	ttaaa	4140
202	toda	taaa	aor t	tgag	aaaa	a to	gatg	aaaa	att	gcac	aga	aatg	agtg	ca a	.gaaa	ttaca	4200
203	gtat	tett	taa	agge	qcac	a cc	tttt	cgca	ttt	caca	aaa	tttc	atcg	tg t	.cgat	accgg	4260
204	gtac	ecota	tt t	taga	.qqca	a aa	atcg	caaa	. atc	tcgc	gtc	tgga	taat	at c	gttt	atcgt	4320
205	ttat	tgaa	aa a	agtt	ttta	a aa	ataa	igaaa	. aat	tgac	agc	tgcg	agaa	at t	atgo	ataat	4380
207	ttat	aaaa	саа	taaa	aatt	t tt	tttt	tcag	gto	gctg	ttc	tgaa	acaa	.ca t	ttat	.cgttg	4440
208	acga	agga	ισa a	ccaq	cago	g ga	agga	iggag	aac	ctct	tta	acaa	atta	itt c	tctt	caaca	4500
209	atgt	atca	ita a	attq	atta	a tt	tatt	taat	att	tata	ttc	gaaa	aaat	gt t	ccca	ttttt	4560
210	<210> SEQ																
211	<211> LENG																
212	<212> TYPI																
213	<213> ORG			Ele	gans	3											
214	<400> SEO	JENCE	S: 12	2													
215	Met	Lys	Lys	Trp	Leu	Val	Ile	Val	Leu	Ile	Ile	Ala	Gly	Ile	Arg	Cys	
216	1				5					10					15		
217	Asp	Gly	Phe	Ser	Asp	Gln	Val	Phe	Arg	Thr	Leu	Phe	Ile	Gly	Glu	Gly	
218				20					25					30			
219	Asn	Ala	Cys	Tyr	Arg	Thr	Phe	Asn	Lys	Thr	His	Glu	Phe	Gly	Cys	Gln	
220			35					40					45				
221	Ala	Asn	Arg	Glu	Asn	Glu	Asn	Gly	Leu	Ile	Val	Arg	Ile	Asp	Lys	Gin	
222		50					55					60		_	_	_	
223	Glu	Asp	Phe	Lys	Asn	Leu	Asp	Ser	Cys	Trp		Ser	Phe	Tyr	Pro	гув	
224	65					70					75	_		-1-	3	80	
225	Tyr	Ser	Gly	Lys	Tyr	Trp	Ala	Leu	Leu		Val	Asn	Leu	ııe	Arg	Arg	
226					85				_	90	_	-	a	a1	95 Tla	3707	
227	Asp	Thr	Ile	Ser	Gln	Leu	Lys	Ser		Lys	Cys	Leu	ser	GIY	тте	Val	
228				100		_		_ =	105	_	~ 1		~1	110	mb~	71-	
229	Leu	Tyr	Asn	Ser	Gly	Glu	Ser		His	Pro	GTA	Asp	GIU	ser	THE	Ala	
230			115			_		120	_			a	125	m,	Trans	Leu	
231	Ala	Ser	His	Asp	Ala	Glu		Pro	Asn	Ala	Ala	ser	Asp	TAT	ıyı	пеп	
232		130			_		135	_	~7	•	T	140	7 ~~	C0.x	7.20	Gly	
233	Gln	Asp	Lys	Asn	Glu			Cys	GIU	Arg	гÀЗ	TTE	ASII	ser	Arg	160	
234	145					150			-	-1 -	155		7 ~~	Tla	Gln		
235	Ala	Ile	Thr	Arg			Leu	Met	гла		Asp	тгр	ALG	116	175	1.1C C	
236					165	_	_,	-	.	170	T 1.	т1.	C111	Tara		Tizz	
237	Val	Phe	Ile			Ser	Thr	Asp			тте	TTE	GIU	цуS 190	Cys	- 1 -	
238				180	_	_	.	01.	185		c.~	Car	<u>@</u> 117		Pro	Tvr	
239	Ser	Met			Lys	Pro	ьys			сту	ser	ser	205	- Y L	110	-1-	
240			195	_			•	200		Mot	. ר ת	λla		Δan	Ser	Glu	
241	Cys	Gly		Ser	Phe	Arg			ASN	Mec	мта	220	GTĀ	VOII	DET	014	
242		210	_	_	•	~ 1	215		7 ~~	7 J ~	Lazo		Phe	Gln	Met	Asn	
243		Cys	Tyr	Arg	Arg			ASI	Asp	WIG	шув 235	₽₽U	- 116	J111		240	
244	225	i				230					43 3						

PAGE: 6

VERIFICATION SUMMARY PATENT APPLICATION US/09/541,094

DATE: 04/19/2000 TIME: 17:54:19

Input Set: I541094.RAW

Line ? Error/Warning

Original Text

16 W Line data has been corrected

22 W Line data has been corrected

52 Missing Required Data for this Field

53 E Wrong or missing Molecule Type

58 W Line data has been corrected

PAGE: 7

CORRECTION SUMMARY
PATENT APPLICATION US/09/541,094

DATE: 04/19/2000
TIME: 17:54:19

Input Set: I541094.RAW

Line	Original Text	Corrected Data							
16 22 58		This	Sequence	is	intentionally intentionally intentionally	skipped			